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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/026,270

12/21/2001

Robert E. Bicking

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01/25/2005

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EXAMINER

WELLS, KENNETH B

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,270

Applicant(s)

BICKING, ROBERT E.

Examiner

Kenneth B. Wells

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The amendment filed on 11/22/04 has been received and entered in the case. In view of the arguments therein, the previous prior art rejections are hereby withdrawn. However, new art rejections are set forth in view of newly discovered references. Any inconvenience caused by the delay in citing this new art is regretted.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3, 6, 14, 25 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "drives an output voltage to an input voltage" is unclear claim language. It appears that applicant is attempting to recite some type of feedback here, but this is not clear from the present language. Even more unclear is "which is divided by a value of two". What is this referring to? What input voltage is divided by a value of two?

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In claim 3, "offset correction voltages" lacks clear antecedent basis, i.e., if this is referring to the offset correction voltage" already recited in claim 1, then appropriate amendments need to be made in order that proper antecedence is provided. Moreover, claim 3 should be canceled entirely because it does not further limit the scope of claim 1, which is improper (i.e., all limitations of claim 3 are already included in claim 1).

Claim 6 is improper because it is not supported by the originally filed specification, as was pointed out in the previous office action (applicant's argument that resistors 84 and 86 are magnetoresistors is incorrect).

In claims 14 and 25, "located in an inverting input" is improper, for the reasons noted in the previous office actions.

Claim 28 is objected to because it is improper to recite "a voltage" as one of the elements of the claimed system (only physical elements or means, and their associated connections should be recited).

4. Claims 1, 3-5, 7-10, 15, 17-19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Schroeder et al.

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As to claims 1 and 15, note Fig. 5, which shows the application of an "offset correction voltage" on line 178 to the non-inverting input of amplifier 176; the magnetoresistor half-bridge formed by MR resistors 136 and 138; The language "drives an output voltage...to an input voltage...which is divided by two" is not understood and thus cannot be relied upon to define over Schroeder et al. Moreover, the language "which is utilized to automatically calibrate..." is merely the intended use of applicant's claimed invention and likewise cannot be relied upon to define over Schroeder et al.

Claims 3-5, 7, and 8 read directly on Fig. 5.

The third and fourth resistors set forth in claims 9 and 10 read on resistors 174 and 180, respectively.

Claims 17-24 are seen to recite the same limitations as the above-noted claims and thus are anticipated as well.

5. Claims 1, 6, 15 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by either Sudo et al or Eck et al.

Each of these references teaches the use of two pairs of magnetoresistive elements in two bridge legs, see Fig. 7 of Sudo et al (resistors 32 through 36 are all

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magnetoresistors) and also Fig. 7 of Eck et al (resistors 52, 54, 56 and 58 are all magnetoresistors).

6. Claims 2, 11-4, 16 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder et al.

The recitation of InSb as the material for forming the signal conditioning circuit (claims 2 and 16) does not define patentably over Schroeder et al because this is old and well-known (applicant admits as much is the background discussion of the instant disclosure). Also admitted as prior art by applicant is the use of an InSb magnetoresistor having a negative scale factor temperature coefficient.

The use of a magnet in the signal conditioning circuit also magnetoresistor having a negative scale factor temperature coefficient (claims 11, 14, 25 and 28) would have been obvious because this is also old and well-known in the art, for the well-known purpose of varying the resistance values of the magnetoresistors (such as resistors 136 and 138 in Fig. 5 of Schroeder et al).

The resistor 174 in Fig. 5 of Schroeder et al is a fixed temperature coefficient resistor (claims 12 and 26) and is in series with the MR's 136, 138 (claims 13 and 27).

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The language "to thereby obtain a flat resultant temperature coefficient..." is merely the result of the claimed method and cannot be relied upon to define over the reference either (only physical elements, connections or functions can be relied upon to define over the applied prior art).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining references are also seen to anticipate at least independent claims 1 and 15 (as well as several of the dependent claims).


8. In view of the above-noted new grounds of rejection not necessitated by applicant's amendments, this action is non-final.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kenneth B. Wells
Primary Examiner
Art Unit 2816

January 21, 2005